Remarks

In view of the above amendments and following remarks, reconsideration of the rejections and further examination are requested.

Claims 1, 7 and 15 are pending in this application and stand rejected. Claims 1, 7 and 15 are amended herein. No new matter has been added.

Claims 1, 7 and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kling et al. (U.S. Patent No. 6,662,203) (hereinafter referred to as "Kling") in view of Takeuchi et al. (U.S. Patent No. 5,944,778) (hereinafter referred to as "Takeuchi") and further in view of Anderson (U.S. Patent No. 5,465,335) (hereinafter referred to as "Anderson").

The above rejection is submitted to be inapplicable to the amended claims for the following reasons.

With exemplary reference to the figures, claim 1 sets forth a computing device comprising a processor 1 and a memory 2 that operate as a process scheduling apparatus for performing parallel processing of a plurality of processes respectively having assigned priorities, said process scheduling apparatus comprising: at least one delayed task processing unit #1 for executing delayed tasks A, B, C, D among the plurality of processes, the at least one delayed task processing unit #1 having a queuing table 21 in which the delayed tasks A, B, C, D are to be registered and having an assigned priority that is variable, wherein the delayed tasks A, B, C, D include a task involved in an interrupt handler task for which processing can be delayed; a plurality of normal process executing units #2, #3, #N for executing one of the plurality of processes other than the delayed tasks, and having an assigned priority identical to the priority of the executed process; a process scheduling unit 12 for sequentially activating the at least one delayed task processing unit #1 and the normal process executing units #2, #3, #N according to the priorities assigned to the at least one delayed task processing unit #1 and the normal process executing units #2, #3, #N to make the at least one delayed task processing unit #1 and the normal process executing units #2, #3, #N execute corresponding processes; a delayed task registration processor 13 for registering a newly generated delayed task and a priority thereof in the queuing table 21 of the at least one delayed task processing unit #1; a delayed task priority controller 14 for selecting the delayed task of highest priority

from the delayed tasks registered in the queuing table 21; and a process priority controller 15 for setting the priority of the delayed task processing unit #1 identical to the priority of the delayed task selected by the delayed task priority controller 14, wherein when a newly generated delayed task having a priority higher than that of a currently executed delayed task is generated, the process priority controller 15 sets the priority of the at least one delayed task processing unit #1 before termination of the currently executed delayed task by suspending the currently executed delayed task, setting the priority of the delayed task processing unit #1 to the priority of the newly generated delayed task, and then, prior to executing the newly generated delayed task, resuming the currently executed delayed task to completion.

Thus, claim 1 requires a computing device comprising a processor 1, and a process scheduling apparatus, wherein the process scheduling apparatus includes, in part, a process priority controller for setting a priority of a delayed task processing unit identical to a priority of a delayed task selected by the delayed task priority controller, wherein when a newly generated delayed task having a priority higher than that of a currently executed delayed task is generated, the process priority controller sets the priority of the at least one delayed task processing unit before termination of the currently executed delayed task by suspending the currently executed delayed task, setting the priority of the delayed task processing unit to the priority of the newly generated delayed task, and then, prior to executing the newly generated delayed task, resuming the currently executed delayed task to completion.

As admitted by the Examiner in the Office Action, Kling does not disclose "a process priority controller for setting the priority of the delayed task processing unit identical to the priority of the delayed task selected by the delayed task priority controller." Moreover, the Examiner admitted that Kling does not disclose "wherein when the newly generated delayed task is generated, the process priority controller sets the priority of the at least one delayed task processing unit before an initiation of a next process following a currently executed process by suspending the currently executed process, setting the priority of the delayed task processing unit, and then resuming the currently executed process." Instead, the Examiner cited Takeuchi and Anderson as disclosing these features.

Specifically, the Examiner cited Takeuchi as teaching "task scheduling and execution of 'normal' processes and idle or delay processes with means for setting the execution priority ('raised' or 'depressed') of an idle/delayed process and that setting the priority of a delayed task processing unit to its subject process is typical." The Examiner also asserted that Takeuchi teaches "registering the processes beforehand, and "a process scheduling apparatus wherein when the new delayed task is generated, the process priority controller sets the priority of the delayed task processing unit before an initiation of a next process following a currently executing process at the generation of the new delayed task" (see col. 6, lines 57-60).

In contrast to the present invention, Takeuchi simply discloses in col. 6, lines 57-60, that upon arrival at the time when a CPU should be allocated to a process group 103, a periodic kernel process 101 sets the priority of a group master process of the process group 103 to "raised." There is no disclosure or suggestion to modify Takeuchi such that the kernel process sets the priority of the master group process to the priority of a newly generated delayed task.

In other words, Takeuchi does not disclose that *wherein when a newly generated delayed task having a priority higher than that of a currently executed delayed task is generated, the process priority controller sets the priority of the at least one delayed task processing unit before termination of the currently executed delayed task by suspending the currently executed delayed task, setting the priority of the delayed task processing unit to the priority of the newly generated delayed task, and then, prior to executing the newly generated delayed task, resuming the currently executed delayed task to completion*, as recited in claim 1.

The Examiner relied upon Anderson as teaching that "any task can be suspended from current execution and then resumed."

However, in contrast to the present invention, Anderson discloses in col. 4, lines 20-23, that if a task of higher priority is placed in a queue, the currently running task is replaced by the higher priority task at the head of a CPU Queue 20 and the task of higher priority executes. The Applicants respectfully submit that by virtue of replacing the currently running task with the higher priority task, Anderson teaches against setting the priority of the at least one delayed task processing unit before termination of the currently

executed delayed task by suspending the currently executed delayed task, setting the priority of the delayed task processing unit to the priority of the newly generated delayed task, where the newly generated delayed task has a higher priority than the currently executed delayed task, and then, prior to executing the newly generated delayed task, resuming the currently executed delayed task to completion.

Moreover, modifying the present invention as recited in claim 1, by replacing the currently executed delayed task with the higher priority delayed task renders the present invention unsatisfactory for its intended purpose because the currently executed delayed task would not finish executing. Because the proposed modification renders the present invention unsatisfactory for its intended purpose, Anderson teaches against the present invention.

Regarding claims 7 and 15, they are patentable over the references relied upon in the rejection for reasons similar to those set forth above in support of claim 1. That is, each of claims 7 and 15 similarly require that *when a newly generated delayed task having a priority higher than that of a currently executed delayed task is generated, the process priority controller sets the priority of the at least one delayed task processing unit before termination of the currently executed delayed task by suspending the currently executed delayed task, setting the priority of the delayed task processing unit to the priority of the newly generated delayed task, and then, prior to executing the newly generated delayed task, resuming the currently executed delayed task to completion.*

For at least the reasons set forth above, it is respectfully submitted that the above-discussed features as recited in claims 1, 7 and 15 are not disclosed in the references applied by the Examiner. Furthermore, it is respectfully submitted that one of ordinary skill in the art at the time the invention was made would not have modified Kling in such a manner as to result in, or otherwise render obvious, the invention of claims 1, 7 and 15. Therefore, it is respectfully submitted that claims 1, 7 and 15 are clearly allowable.

In view of the foregoing amendments and remarks, all of the claims in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

Should the Examiner believe that there are any remaining issues which must be resolved before this application can be passed to issue, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

Katsushige AMANO et al.

/Kevin McDermott/
2008.07.02 16:03:25 -04'00'

By _____
Kevin McDermott
Registration No. 48,113
Attorney for Applicants

KM/CRW/km
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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